

**REMARKS**

Claims 1-12 are pending. By this Amendment, the Abstract has been replaced.

Applicant appreciates the courtesies extended by Examiner Tran to Applicant's representative during the September 21, 2004 personal interview. The personal interview is summarized below and thus constitutes Applicant's record of the interview.

Applicant appreciates the allowance of claims 4-8 and 12. For the reasons discussed below, all of claims 1-12 are allowable.

The Abstract is objected to for exceeding 150 words in length. Accordingly, a substitute Abstract is enclosed that is within the range of 50-150 words. It is respectfully requested that the objection be withdrawn.

Claims 1-3 and 9-11 were rejected under 35 U.S.C. §102(e) over Shi et al. (Shi), U.S. Patent No. 6,694,243. The rejection is respectfully traversed.

Shi fails to disclose a catalyst degradation determining apparatus wherein the controller corrects the degradation index value acquired, based on a factor that affects the degradation index value, so that the degradation index value becomes equal to a post-normalization index value that is a degradation index value acquired when the factor is a predetermined value, as recited in claim 1 and as similarly recited in claim 9.

Shi discloses a method for determining the oxygen storage capacity of a catalytic converter. After various controls (steps 102-136) have been performed in order to place the system in a predetermined condition (col. 9, line 63- col. 10, line 44), the oxygen storage capacity (OSC) of the catalytic converter is measured at step 138 (col. 10, lines 44-45). After the OSC is measured, the OSC measurement is normalized using a mathematical model, model 2, at step 140 (col. 10, lines 45-47). After the OSC measurement is normalized, a determination is made using steps 142-150 in order to determine if the catalytic converter is good or bad (col. 10, lines 48-58). This process is generally outlined in claim 1 of Shi.

As argued during the personal interview, although Shi normalizes the OSC measurement before the OSC measurement is compared against a pre-defined threshold, Shi fails to provide any disclosure with regard to correcting the OSC measurement based on a factor that affects the OSC measurement when the factor is a predetermined value. Shi understands that the OSC measurement is primarily affected by an engine air flow, a catalyst temperature and an average short-term integrator value (col. 9, lines 14-18). However, Shi fails to correct the current OSC measurement when any of the factors is currently at a predetermined value.

Shi only looks at the factors that affect the OSC measurement in order to obtain coefficients for the mathematical model, model 2 (col. 9, lines 6-35) that is later used to normalize the current OSC measurement. In other words, when the OSC measurement is later normalized, Shi fails to determine if any of the factors that affect the OSC measurement is a predetermined value. Shi simply normalizes the OSC measurement using previously determined coefficients (i.e., a, b, c, d, (col. 9, lines 23-25)) under current catalytic converter conditions. The current condition of any of the factors that affect the OSC measurement is not considered. Shi thus suffers deficiencies in that it is difficult to accurately determine the degradation of the catalytic converter when the factor has a current value that does not significantly affect the OSC measurement.

As such, Shi fails to disclose all of the features recited in claims 1 and 9, as well as the additional features recited in the dependent claims. It is respectfully requested that the rejection be withdrawn.

Claims 1-3 and 9-11 were rejected under 35 U.S.C. §102(e) over Hatano et al. (Hatano), U.S. Patent No. 5,966,930.<sup>1</sup> The rejection is respectfully traversed.

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<sup>1</sup> Please note that Hatano qualifies as a reference under 35 U.S.C. §102(b).

Hatano also fails to disclose a catalyst degradation determining apparatus wherein the controller corrects the degradation index value acquired, based on a factor that affects the degradation index value, so that the degradation index value becomes equal to a post-normalization index value that is a degradation index value acquired when the factor is a predetermined value, as recited in claim 1 and as similarly recited in claim 9.

Hatano discloses a catalyst deterioration determining system wherein the oxygen storage capacity is obtained using an integrated intake amount. Similar to Shi, when the oxygen storage capacity is measured, none of the factors that affect the oxygen storage capacity measurement are considered. Instead, Hatano uses current catalyst conditions. Hatano thus also suffers deficiencies in that it is difficult to accurately determine the degradation of the catalyst when a factor that affects the oxygen storage capacity measurement has a current value which does not significantly affect the oxygen storage capacity measurement.

In view of the foregoing, Hatano also fails to disclose all of the features recited in claims 1 and 9, as well as the additional features recited in the dependent claims. It is respectfully requested that the rejection be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-12 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff  
Registration No. 27,075

Scott M. Schulte  
Registration No. 44,325

JAO:SMS/sxb

Attachment:  
Substitute Abstract

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**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

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